AMERICAN VETERINARY REVIEW,

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EDITORIAL.

REGULATING VETERINARY PRACTICE IN THE STATE OF NEW YORK—"the veterinary bill has been signed, and is now law"—applications made in previous years have always failed—why—this final success due to harmonious feeling and action by the committee of the State Society, and principally on the part of its chairman, Dr. Pendry, to whom the credit of the passage of the bill is due—they receive a unanimous vote of thanks from the society—the bill is not as perfect as it might be, but it ultimately gives the death-blow to quackery. RABIES—importance of inoculation in presence of doubtful cases—in this instance it proves most satisfactory, confirming the diagnosis and probably deciding the bitten person to submit herself to treatment—still the period of incubation is too long, and it may be fatal to wait its results—government commissions sent from all parts of Europe to France, to investigate Pasteur's methods—the United States alone remains behind—investigations from this country looked for and obtained only through personal enterprise. THE PLEURAL SACS OF THE HORSE—these are distinct and separated—the posterior mediastinum is not imperforate—observations of Mr. Barrier—the importance of this fact in a clinical point of view. TUBERCULOSIS, not pleuro-pneumonia, in Maine—report of Professor Michener—error in the report upon the nature of the disease made in agricultural papers—Dr. Bailey ought to correct it. VACCINE IN HOG CHOLERA—letter of Dr. Salmon to the *Breeders' Gazette*—the vaccine of Pasteur fails him, as it did Dr. Gerth in Nebraska—are hog cholera and rouget the same disease—importance of the question.

REGULATING VETERINARY PRACTICE IN NEW YORK STATE.—"The veterinary bill has just been signed, and is now law—signed, John P. Windolph." These were the words of the telegram read by Dr. W. Pendry, Secretary of the New York State Veterinary Society, at the last meeting of that body, held a few days ago.

At last, then, the veterinary profession in the State of New

York is legally recognized, regulated and protected. For years we have been making application for this to the Legislature at Albany. For years in succession bills have been presented, discussed and amended, and for years the legislative body has adjourned without perfecting the law which was so urgently asked for. But when certain changes which had been proposed were, recently, consummated, when the various veterinary bodies became willing to forego private feelings in order to organize into one society, when the interests of one had become the interests of all, the result was no longer to be doubted, and "the bill is now law." To this desirable harmony, thus at present existing amongst the veterinarians of the State, and to their desire to obtain the legal recognition which would sooner or later have been accorded to them by the public; to their willingness to concede not only what was needful in the past, but as much more in addition, in the present time; to all these causes, in part, is the success due which has now been secured. But the greatest portion of it belongs justly to the committee which had been appointed to represent the society, and chief amongst these to the chairman, Dr. Pendry. Indeed, this is true to such an extent that, in a great measure, to him personally belongs the credit and honor of the passage of the bill, in like manner as to Dr. M. Payne, years ago, belongs, we believe, the credit of the passage of the anatomy bill, by which our medical schools have been enabled to obtain all the dissecting material they need. Dr. Pendry has done well, and the unanimous vote of thanks which was passed in acknowledgment of his services by the Society, was but a just recognition of his efforts in behalf of the profession.

The act, as passed, is somewhat different from the bill which was originally presented, and published by us in our issue of February, and upon a cursory reading, the profession in the State would seem rather to have been lowered than elevated by accepting such legislative regulation. But, a more careful reading of the wording and a careful consideration of the sense of the law, will bring to the mind the unavoidable conclusion that it is not only a regulation of our profession, but is a death blow to quackery. Though on a larger scale, it is perhaps much the same with

the measure adopted in England some few years ago. But its acceptance was perhaps a necessity. It was probably "now or never," and if any one feels like blaming the action of the New York State Veterinary Society for their action, a consolation remains in the fact that the society may indulge in the reflection that while the present generation may derive but little benefit from the act, the coming generation will profit by it to such an extent that before many years have passed, no one in the State of New York will be found practicing veterinary medicine without having been regularly educated and graduated. The State of New York was the first to establish veterinary schools in this country, and it is within her territory that the first State Veterinary Society was organized. It is to her honor that she is the first to give legal recognition to the profession, and to take a decisive step towards the extirpation of quackery in the country.

RABIES.—We have on various occasions called the attention of veterinarians to the great advantage they might derive from the investigations made in rabies by Pasteur, as a means of doubtful diagnosis of that disease in dogs. A case which will be found in the present issue, reported by Dr. Walrath, House Surgeon to the American Veterinary Hospital, illustrates the benefit that may be obtained by the cerebral inoculation of the medulla oblongata of dogs which have been put to death on suspicion of suffering with rabies, and at the post mortem of which, though the lesions might justify the diagnosis, yet a doubt might still remain. In the case recorded, the dog had presented at the autopsy comparatively trifling lesions, perhaps sufficient to have been satisfactory in past years, but still of such a character as scarcely to justify a trip from America to Europe. Experimental medicine came to the rescue. Another dog was trephined, a portion of the medulla of the suspected dog was introduced under the dura mater of the second, and twenty days afterwards death resulted from dumb rabies. A telegram was sent at once to the interested parties of the result obtained, of the confirmed diagnosis, and the unfortunate young lady who had been bitten by the first dog was placed under Pasteur's treatment, and will undoubtedly escape a most horrible death. In connection with this case, however, the

incubation has been longer than any other recorded by Pasteur. It is difficult, perhaps, to explain the cause of it, but if this length of time is to remain unaltered in all cases, it naturally suggests the inquiry whether it would not be too late then for a patient to go to Europe from the United States, and would Pasteur's treatment be likely to be successful. To overcome this difficulty, the imperative necessity of being provided with the means of treatment at home becomes apparent. There has already been a Pasteur Institute organized in New York, which may secure to us the means of overcoming this difficulty. But there is something peculiar in the inaction of the National Government, which has thus far quite ignored the whole matter. The attention of Congress and of the Executive may easily be and very often is absorbed by matters of much less interest than the investigation of the work of Pasteur in rabies, and, truly, in all the contagious diseases he has already studied. What great difference exists between the American Government and the Governments of Europe, nearly every one of which has sent delegations or commission of investigators to his laboratory, Turkey, Italy, Germany and England having now in Paris medical commissions, sent there for the purpose of educating themselves in the science and experience of the inoculation treatment. Yet all that Americans seem likely to know on these vitally important subjects will probably be the fruit of private enterprize and philanthrophy. Not that this will not be as good and valuable as though the Government had paid for it, but a little official prestige in the matter would not have been at all improper or in the least out of order. Friends and members of the veterinary profession will be pleased to find the name of George Fleming on the list of the delegates who represent the English Governmennt in Paris.

Pleural Sacs of the Horse Distinct and Separated.—Ever since the publication of the excellent work on "Equine Anatomy," by Rigot, in 1827, and reprinted since by almost all veterinary anatomists, and even in the works of St. Cyr, Lafosse and others, it has been held and taught by all clinical writers that the pleural sacs of the thorax of the horse are in communication with each other, and that for that reason unilateral pleuritic

effusions did not exist in that animal, but that, on the contrary, when pleurisy was present, both sides of the chest were always more or less filled with fluid.

At one of the meetings of the *Societé Centrale de Médecine Veterinaire*, Mr. Barrier presented a paper upon the imperforation of the posterior mediastinum, and the distinct independence of the two pleural sacs. In this paper, which we print to-day, the reader will notice some important conclusions, which, while they may be of but little importance from a therapeutical point of view, will alter considerably the pathology of the lesions which are met in the disease mentioned. A careful consideration of the subject will be of use to veterinarians in explaining an error of diagnosis which may sometimes occur, and by which unilateral pleuritic effusions have often been mistaken for inflammation of the lungs.

TUBERCULOSIS IN MAINE.—In our last issue we made a few remarks upon the prevalence of tuberculosis amongst many of our registered herds, and mentioned its presence, amongst others, in the Maine Agricultural College. State Veterinarian Dr. G. Bailey had addressed a communication to us in reference to the measures to be taken in the premises, and we understand that Dr. Salmon, of the Bureau of Animal Industry, has given advice somewhat similar to ours. To make assurance of a satisfactory issue in the matter still more sure, however, and in compliance with a request by the college authorities, the opinion of Dr. Michener was applied for, and his report has been duly presented. It will be found in the present number of the REVIEW. The entire herd was found to be diseased, and were one and all destroyed. The post-mortem examinations plainly revealed the tuberculous character of the lesions, and confirmed the diagnosis.

In the presence of the great and widespread excitement which has prevailed in the West on the subject of contagious pleuro-pneumonia, it is to be regretted that the agricultural press should not be more thoroughly informed in respect to the difference which exists between that and tuberculosis disease. Tuberculosis is NOT contagious pleuro-pneumonia, and *vice versa*.

We were much surprised to find in so intelligent a paper as

the *National Live Stock Journal*, (in its weekly edition of May 4th), an editorial on "Pleuro-Pneumonia in Maine." One disease is perhaps no more desirable to have amongst our cattle than the other, but if the public should adopt the opinion that the contagion of pleuro-pneumonia exists only in Maine, even if confined within the limits of the Agricultural College farm, it might create an alarm which would result in a demand for extreme sanitary measures, which, after all, might be quite unnecessary. It seems to us that State Veterinarian Bailey might correct that statement. We believe Maine to be free from pleuro-pneumonia, and she ought to defend her good repute in this particular.

Pasteur Vaccine in Hog Cholera.—A letter to the *Breeders' Gazette*, from the able veterinarian of the Bureau of Animal Industry, Dr. E. Salmon, will be found reprinted on another page, in relation to our remarks on the experiments made in Nebraska to test the value of inoculation for hog cholera. The results obtained by the Doctor in testing the value, not of the process of vaccination, but of the vaccine itself, as imported from Europe, will prove highly interesting. Knowing, as we do, that every scientific precaution has been observed by Dr. S. in conducting the experiments he has made, we see no alternative except to conclude that the vaccine which was sent to us and delivered to him has entirely failed to produce the results anticipated, not only after being kept five weeks, but even after the very short period of three weeks from the date of its preparation.

How these results are to be explained may be difficult to say. It can hardly be supposed that the vaccine failed because it was improperly prepared, the supply having been obtained directly from Mr. Pasteur's laboratory. Has it been devitalized by exposure to heat and dampness and other changes consequent on a sea voyage? Or, after all, is it, as Dr. Salmon seems to be inclined to believe, and as he has expressed to us in our correspondence, that the rouget of the French and the hog cholera of America are entirely different diseases? These are all-important questions to determine, and perhaps no man is better able to do so than the head veterinarian of the Bureau of Animal Industry.

The veterinary profession will, no doubt, anxiously look for a definitive and positive answer to the query, whether the diseases are the same. If they are not identical, of course the virus of Pasteur from one cannot answer for the other, but if they are not diverse, what reason can be imagined for the failure of Dr. Salmon in both of his experiments, if it is not accounted for by the age of the virus ?

ORIGINAL ARTICLES.

DISEASES OF THE HEART IN DOMESTIC ANIMALS, ESPECIALLY THE HORSE.

By Fr. Blazekovic.

(*Translated by J. C. Meyer, Sr., V.S.*)

Continued from page 58.

Diseases of the Valves and Ostium.

Inflammation of the valves occurs very rarely independently mostly in consequence of endocarditis. Symptoms indicating inflammation of the valve are; continued fever with a high temperature of the body, a quick, hard, intermittent pulse, and sometimes difficult breathing, though only if associated with other diseases of the heart.

Auscultation and the cardiac sounds, which no doubt change at every alteration of any valve, give excellent physical signs for the diagnosis. Inflammations which disturb the function of the valves and produce roughness of the same, will by reason of the current of blood cause friction and murmurs. Respecting these appearances, I advise their close scrutiny in defects of the valve in general. Undoubtedly, sufficient factors exist in the organism which can call forth abnormities of the valves. As we have already seen in the preceding chapter, these are generally similar to the products of inflammation, hence an inflammation of the valves is no rare occurrence. It, however, often escapes observation, and is not recognized until it is a developed defect of the valve.

Abnormities of the valves and ostia in domestic animals exist much oftener than is generally supposed, and as has thus far been established by post mortem examinations. If the great number of emphysematous horses were carefully dissected, we would soon be convinced of the frequency of the abnormities of the heart-valves, more so since they are present in nearly all other diseases of the heart.

As long as the defects of the valves are still in a state of formation, they do not exercise any injurious influence upon the good health of the animal, and are therefore not heeded by the physician; but in progressive development they assume all those symptoms which are found in affection of the heart. Emphysema of the lungs, dyspnœa, oft-recurring congestion of the brain, dizziness (in horses when at work), are constant attendants of defects of the valves.

Next to the state of the pulse, abnormities in the murmurs and sounds of the heart are the best characteristic indications of defects of the valves. In developed chronic abnormities of the valves the tension of the pulse is mostly normal. Sometimes it is hard and full, or soft and empty, according as the combination of the anomalies of the valves determines. Generally the pulsations are normal, sometimes they are reduced as regards number, because in a given number of pulsations some may be wanting or lost; at least they are not perceptible to the examiner. But the number of pulsations in given intervals are never increased. This may be said of all deficiences of the valves without exception. According to my observation this phenomenon is always connected with diseases of the valves.

The intervals between the wanting or lost beats are not always equal; often they are longer, often shorter. For instance, after 3-4 normal beats an imperfect motion or a total failure of the pulse, then several beats in quick succession, as though nature wanted to retrieve the lost beat; then another pause, followed by normal beats. In some cases the fourth, eighth, thirteenth, seventeenth, also the twentieth beats are wanting. After that, shorter intervals set in again which are subjected to mathematical precision in time and number. Often the morbid beat is found to be but very little

weaker than the normal; the difference is so slight as to be perceptible to the experienced practitioner only. "For practice, the frequent taking of the pulse of sound horses is to be recommended."

The pulsation of the heart changes according to the importance of the defects of the valves. After quickened motion it is very easily discovered. The heart-beat discloses a throbbing violent motion to such a degree that, for instance, in insufficiency of the bicuspid valves the first beat is felt less distinctly than the second, while often the first sound predominates and the second is duller. If no inflammation exists, the pulsation is less and approaches the normal.

In all serious defects of the valves a more or less developed turgescence of the jugular vein is present.

Auscultation of the cavities of the heart is of special importance. Every alteration which occurs on the valves, such as shriveling, shortening, growing together, thickening, roughness of the surface, etc., will naturally call forth a disturbance in the heart's mechanism whereby the normal current sounds and friction murmurs also become altered. We may safely accept the existence of defects of the valves as soon as the heart-beat and pulse show a constant dissimilarity and irregularity, and if one or both cardiac sounds become permanently changed by murmurs, without their origin being traceable to nervous excitement or abnormal condition of the blood.

The perceptible murmurs may be classified as follows: (1) bellows murmur, (2) file murmur, (3) rasp murmur, and (4) saw murmur.

Changes of the orifices of the heart may exist, if they are slight, without generating abnormal sounds of the heart; but in important anomalies of the ostia the abnormal sounds are always present. According to the intensity and change of the heart-sounds, the abnomities may be judged. The more important the alteration of the valves, the stronger the murmur. Furthermore, the rougher the surface exposed to the current of the blood, the harsher the sound. For instance, file and rasp murmurs indicate a bony and cartilaginous degeneration. But since the anomalies

of the ostia and alteration of the valves always appear at the same time, a corresponding combined murmur arises, which falls either on the first or second tempo of the heart-beat and supplants the cardiac sound and attains the following diagnostic importance:

(1) Murmur of the first tempo: change of the arterial ostia, insufficiency of the orifices of the auricle.

(2) Murmur of the second tempo: change of the orifice of the auricles, insufficiency of the arterial ostia.

(3) Double murmur: simultaneous affection of the different ostia, insufficiency of several valves.

A. *Insufficiency of the Bicuspid Valves.*

The percussion sound is dulled to a greater extent owing to the constant developing of eccentric hypertrophy; the impulse of the heart is more forcible, clearly felt, and corresponds to the expansion of the dullness. Upon auscultation the first cardiac sound is scarcely perceptible, changing into an undistinguishable murmur which supplant the pure sound. The second sound interrupts the murmur upon the setting in of the diastole. In a violent form of the disease the first and second sound follow another so closely as to make a distinction impossible.

B. *Stenosis of the Ostia.*

More energetic heart-beat; percussion indicates an intense dullness; auscultation shows that the diastolic sounds (2d sound) are occasionally lengthened to such a degree that they consume the first or systolic sound. The murmur is caused by friction on the rough surfaces of the valves of the blood flowing in and out of the ventricle. The audible and sensible scraping and whizzing indicate a roughness of the altered ostia. The blood must force its way through the narrowed space.

If, at the same time, stenose be united with insufficiency, then an abnormal murmur is audible during systole and diastole.

C. *Insufficiency of the Aortic Valves.*

They give the appearance of simple or eccentric hypertrophy of the left ventricle which are perceptible by means of auscultation and a more violent heart-beat; a murmur which supplants the second cardiac sound.

The roughness on the lower end of these valves, or in the aorta, sometimes produces a murmur during the systole of the ventricle and a similar sound is also heard in the aorta. In a more developed insufficiency the inpouring blood calls forth a buzzing noise after systole. The murmur arising during systole of the aorta becomes intense in the region of the valves, spreads downward to the the apex of the heart and then can scarcely be heard, if at all.

D. *Stenosis of the Orifices of the Aorta.*

Hypertrophy of the left ventricle and a corresponding enlargement are the characteristic signs. The percussion sound and the pulsation of the heart-beats are moderately increased. The incapability of the valve to close increases, the heart-beat attains great force. The first murmur is distinctly discernible from the second sound. If the contraction of the valves be considerable, a loud cooing sound is heard; often a double murmur is present.

E. *Insufficiency of the Tricuspid Valves.*

An enlargement of the right auricle is present, with dullness of the percussion sound in the upper region of the heart. Swelling and pulsation of the jugular vein is always constant. In place of the first cardiac sound this change causes a murmur and an indistinct cardiac sound in the right ventricle, which is very weak or not all perceptible.

Herewith, I have given a few fulcrums by which the defects of the valves can be identified. In utilizing these a diagnosis can be made, if not with absolute certainty, at least with great probability. At all events sufficient moments can be found for practical purposes.

The course of the anomalies of the valves may be very tedious, so that under circumstances animals attain old age; but often the disease has a rapid fatal termination. Prognosis, in reference to cure, is unfavorable, and, according to the degree of the affection, doubtful and more or less difficult to determine.

(*To be continued.*)

CANINE DISTEMPER.

A paper read before the New York State Veterinary Society,
By C. Cattanach, D.V.S.

Mr. President and Gentlemen:

I will endeavor this evening to entertain you with a brief treatise on the subject of "Canine Distemper," sometimes called catarrhal fever in the dog. This disease shows itself under different forms; some writers recognize five, but to simplify matters I will select two, the catarrhal and the nervous, mentioning the others simply as complications which may arise in conjunction with these two principal forms, although they may exist individually in some cases.

The cause is due to a specific poison which enters the system and may remain latent for some time. The period of latency is indifferent; it may not last twenty-four hours, or it may last a month. To illustrate this, I may mention I have exhibited at the dog show different litters of puppies, and they all showed symptoms in from three to four weeks. Adult dogs have contracted it much sooner than the puppies (by this I mean dogs which I have exhibited.) I am of opinion that puppies should not be sent to shows, as I never knew any to escape distemper that were sent there; and the mortality in puppies is a very large per cent. The virus will remain for a long time about the dog and kennel after recovery, so it is dangerous to introduce other dogs.

Among other causes are exposure to cold, and being kept in badly drained or ventilated apartments. Improper feeding, teething and worms are also mentioned, but I do not think these would be primary causes. Some writers on the subject say a dog may be predisposed to the various forms, as for instance, food or worms may excite the intestinal form. Well bred dogs are more prone to an attack than mongrels, and are less able to stand an attack. I should have previously mentioned that the origin of the disease is unknown, but was first recognized in the seventeenth century, and in some parts of the world was unknown. It was not known in Australia until recently, when it was first brought there by a dog imported from England.

Symptoms of the catarrhal form.—At first you may notice shivering, dullness and febrile symptoms, such as dry nose, thirst, quick pulse, although sometimes before this sneezing often occurs; the appetite may be lost, or only partial; the urine scanty and dark; a discharge of tears from the eyes and a swelling of the eyelids; the nose also discharges a thin mucus, and the discharge from the eyes and nose finally become purulent. These symptoms may all be present, but in some very mild cases all that may be noticed is the discharge from the eyes, maybe with a slight cough and little or no impairment of the appetite. In other cases the symptoms are more severe; conjunctivitis may set in; ulceration of the cornea and an escape of the aqueous humor may occur. The disease is usually in the form of a bronchial catarrh, involving the nasal passages to a greater or less extent; this is usually accompanied at first with sneezing, or very often a dry cough, which afterwards becomes moist; the cough is continued at short intervals, or it may come on in fits; the dog becomes dull, listless, and likes to hide away from the light. This is seen especially where the eyes are involved. In some cases the disease may be of a mild form, such as a slight febrile condition; the nose dry, and perhaps a few tears from the eyes.

The catarrhal form may be also complicated with gastric irritability; food is not retained in the stomach, and the vomit is of a yellow, tenacious character; in some cases even water is not retained. In these cases the liver is usually more or less involved, being torpid. This state of affairs may exist even when there are little or no catarrhal symptoms. In other cases the bowels may be irritable, and diarrhœa or a dysenteric discharge, which has a very bad odor, may ensue. In cases of this kind the result is generally serious, and unless quick attention is bestowed the patient may last but a short time. The irritability may be so great as to cause gastritis or entiritis; this is especially seen where dogs have been improperly fed, that is to say, where the food has been of a coarse kind.

Pneumonia may also be a complication. This is diagnosed by the manner in which the dog breathes—the cheeks puff and sink in expiration and inspiration; the eye sinks in the head,

the pulse quick and weak, and a rise of temperature. On auscultation over the chest, mucous rales, due to the bubbling of air in the mucous or the other various symptoms, are noticed according to the stage of the disease.

Conjunctivitis is a common complication, but more often occurs in the early stages; the symptoms are swollen eyelids, very much inflamed, which meet over the eye so as to shut out light—in fact, the dog cannot open them—and from them at first there is a watery discharge, which gives way to a mucous one, finally becoming purulent. Sometimes white spots are noticed on the cornea, which enlarge and interfere with the sight; and an opacity of the aqueous humor is sometimes seen, but my experience is that when convalescence takes place these gradually clear up and disappear, and *that too* often without any interference. It is said that dogs which have been fed on sugar, sweet cakes, etc., are more prone to affections of the eyes.

Epileptic fits are no uncommon complication, and may occur in some instances as a primary symptom; these may be brought on through teething or improper feeding.

The nervous form differs in different cases, but usually follows an attack of the catarrhal form; the symptoms may be nervous twitchings in various parts of the body, such as in a fore or hind extremity, or in the head; the movements of the legs may be of an irregular or jerky kind; these symptoms may be of a greater or lesser degree. These symptoms are often seen during sleep. Epileptical convulsions may also occur; they make the dog go all one sided, howl plaintively, and finally lose consciousness. As I said before, some maintain this form is aggravated by food, presence of worms, and at this period of the year by changeable, wet weather. Paralysis may affect different parts, such as the face, legs, etc., but is mostly seen in the hind extremities. This however, may not affect the sensibility of the dog.

Sometimes, after both the nervous and catarrhal form, vesicular eruptions are seen on the skin, especially under the abdomen, inside the arms and thighs; they cause a scaly scruff to be thrown off, and to an ordinary observer would resemble mange.

Profalaxus.—To begin with, I believe dog shows spread the

disease, and that if dogs are to be sent to them they should be quarantined *on their return* and not allowed to come in contact with those that have not had an attack of distemper; or would suggest washing with water and disinfectants. In cases where one or more puppies in a litter were affected, by giving the healthy ones a mild laxative dose of medicine, I have noticed that the rest of them escaped, or only had a mild type of the disease. For this I would prefer the use of grey powder, to be followed a few hours later with castor oil, proportioning the dose according to the size and age of the dog. After recovery I would suggest that the kennels and utensils be properly disinfected and cleaned.

Treatment.—It would be difficult to mark out any direct line of treatment, as the disease varies. The indications are to treat the symptoms as they occur, keeping the dog in a well ventilated, clean apartment. Some recommend emetics, others cathartics, but in my opinion the main thing to look to in the beginning is the stomach, which, if attended to, it will be found easier to treat the other symptoms. Give the animal as much nourishment of an easily digested kind as is consistent; such as beef tea, lime-water in milk, brandy and water, etc., and after the febrile symptoms disappear use tonics.

TUBERCULOSIS.

REPORT OF THE INSPECTOR OF ANIMAL INDUSTRY.—THE ANIMALS ALL AFFECTED WITH TUBERCULOSIS.

(*Portland Daily Press.*)

269 W. 38th Street, New York,
April 29, 1886.

To His Excellency, Frederick Robie, Esq., Governor of Maine:

Dear Sir—Pursuant to an order from Hon. Norman J. Coleman, United States Commissioner of Agriculture, I started on the 19th inst. for Orono, Maine, to advise with your State Veterinarian, Dr. George H. Bailey, as to what disposition should be made of the cattle belonging to the State College Farm. Arriving

there before the State authorities I had ample time to study carefully the history and surroundings of the herd.

From G. W. Gowell, Superintendent of farm, I learned that for the past eight or ten years there occurred an occasional death among the cattle, and as nearly as I could judge from his description these animals were affected with the same disease that prevailed at this examination.

The trouble was evidently a pulmonary one, a more or less persistent cough, irregular or hurried breathing and emaciation being witnessed in all.

I was led to examine the hygienic surroundings. The barn is a large one and has ample room for the stock. It is well lighted and thoroughly ventilated; the air being surprisingly pure as I entered the building early in the morning. The stalls are kept very clean, as the animals themselves show. The manure is thrown in the basement, but a free current of air prevents any appreciable odor from rising to the stable. The water is from a cistern which, being above the level of any stable drainage, is pure and wholesome. The feeding is judicious in every sense, and the food, both grain and hay, is of the best quality.

From the history of previous cases, and upon examining a few of the cattle that presented the most marked symptoms, I was able to diagnose the disease as tuberculosis beyond any reasonable doubt.

Upon the arrival of the State authorities it was decided to destroy some of the worst cases for post-mortem purposes. The animals thus selected were some that State Veterinarian Bailey had previously examined and placed by themselves in the horse barn. I will refer to some of them by name and give the lesions presented. Cow *Pansy* presented numerous miliary tubercles throughout the left lung, and in the right were masses of tubercular deposits of various sizes, situated chiefly near the apex of the lung. These masses had become cheesy or calcareous.

Hyacinth presented smaller aggregations of grayish white nodules throughout the substance of both lungs.

Flossy—Both lungs affected; in the right lung near its centre was noticed a large abscess, due to softening and breaking down

of tubercular deposits. The left humero-radial or elbow joint was considerably enlarged and had given rise to lameness during the past few months. The knee joint of the same leg was first involved, but now appeared healthy. The synovial membrane and extremities of the humerus and radius were in a diseased condition, but presented no calcareous deposits or appearances of rheumatoid arthritis. The prepectoral and brachial lymphatic glands were found to contain much cheesy and calcareous matter.

Cows *Edith*, *Crummie*, *Mildred*, *Blanche*, and others showed extensive granulations on the costal and pulmonary pleuræ, which in some instances firmly united the lungs to the ribs.

Helen Hart, in addition to similar lesions of the thoracic organs, revealed well developed tubercles in the udder. Some of these had broken down, and their contents were discharged into the milk sinuses, and tainted the milk—a fact that had been observed by those in charge for some days.

It does not appear necessary for me to detail the lesions found in individual cases beyond this, except to remark that other organs of the body were frequently involved—liver, intestines, etc. The *calves* presented mostly diseased conditions of lymphatic glands and intestines; diarrhœa and other digestive disorders being here most marked.

Out of the forty-seven (47) head destroyed, *all* (four or five calves were not examined, but were killed because of being the offspring of diseased dams, and having occupied the infected barn,) presented symptoms which, as you probably are aware, were accurately interpreted in every instance, even where but very small and deep-seated portions of lung tissue were involved.

The uniformity of these symptoms and pathological lesions must prove to all thinking minds (whether little or *nothing* is known of the appearances of the disease in question) that there existed in each individual member of the herd one and the same disease.

That this disease is both hereditary and contagious seems also patent from the facts that calves scarcely one month old were plainly affected, and that those animals recently bought and

placed with the diseased cattle show upon post-mortem examination the initial lesions of this malady.

In answer to those who contend that this disease was caused by improper feeding, or lack of sufficient ventilation and exercise, it is only necessary to remind you that tuberculosis, like small-pox and similar diseases, is a specific malady; one that can *only* be spread by coming in contact in some way with its special and determined infecting agent.

The assertion that cotton seed meal had anything to do with the origin or spread of this disease is simply ridiculous.

Taking into consideration, then, the facts that a very large proportion of the herd (all, we might almost say) were affected with a disease communicable not only from animal to animal, but from animal to man; that in the future, death after death would occur yearly; that scarcely by any possibility could calves be raised from any of these cows that would reach maturity free from this pestilence; that animals purchased elsewhere and placed with this herd would (as past experience proves) soon become diseased; and that the barn itself is now infected, and must be left vacant for a considerable period; parts of it (floors, etc.,) removed and burned, and a thorough and repeated disinfection be restored to,—it becomes apparent to all, I think, that the only safe and proper course to pursue was the one advised, *i. e.*, the slaughter of the entire herd.

Some of the meat might have been used as food had it not been for the prejudice that was so generally felt against it. For some time it has been impossible to sell even the butter from these cows and I was assured by everyone likely to know, that under no circumstances could a pound of the butter be disposed of now, or even months later.

The swine on the farm that had been fed largely on the milk of these cows, were examined, and one pig nearly a year old was killed and carefully examined, but no traces of tuberculosis could be detected. The butcher who kills the pigs raised on the farm states that in some instances the liver has appeared diseased. In conclusion I can only recommend that when other animals are purchased care be taken to buy from herds where this disease

has never existed, and that each animal be examined at the time of purchase by your State Veterinarian.

Very respectfully,

CH. B. MICHENER, V.S.,
Inspector Bureau of Animal Industry.

I fully concur with the above report.

GEO. H. BAILEY, D.V.S.,
Commissioner for Maine on Contagious Diseases of Animals..

WHY PASTEUR'S VACCINE FAILS TO PREVENT HOG CHOLERA.

BY DR. E. SALMON.

[Extract from *Breeders' Gazette.*]

In the *Gazette* of March 18 is a paragraph headed "Inoculation for Hog Cholera a Failure," which, though it appears anonymously, seems to have been inspired by some one connected with the Nebraska experiments who was unduly anxious to make it appear that these investigations had been conducted with the "strictest scientific accuracy," and that some points of great importance had been settled by them beyond controversy. I will briefly enumerate the claims which are referred to: First, the germ contained in the Pasteur vaccine is alleged to exist in large numbers in hogs that had died of American swine plague; second, the French *rouget*, for which Pasteur's vaccine is prepared, is therefore identical with American swine plague; third, the Pasteur vaccine failed to protect from American swine plague, consequently "Mr. Pasteur's 'inoculation theory' has been tried and found wanting by the cold logic of facts."

The reader will no doubt agree with me that these are broad and sweeping generalizations to be given to the world in such positive language when the questions involved had only been tested by a single experiment. If so much science can be built up so easily and in so short a time, surely some of those who have been working upon those problems for years with equally good facilities must have sadly neglected their opportunities or must have been lamentably weak in their perceptive faculties, or we should have known much more about hog cholera than has been published up to this time.

In the April number of THE AMERICAN VETERINARY REVIEW Dr. Liautard adds some facts which were unaccountably omitted in Dr. Gerth's report. It appears that the vaccine was furnished by Dr. Liautard, who obtained it from M. Pasteur. The vaccine was prepared about September 25 and was not used until November 2, an interval of over five weeks. It is well known that vaccines of all kinds rapidly deteriorate with age, and M. Pasteur informed Dr. Liautard simply that he had known the vaccine to keep good for five weeks. It is evident, therefore, that the keeping qualities of this vaccine have not been tested very accurately, and that while it may remain active for five weeks it may also become worthless in that time. Dr. Liautard states that he furnished the vaccine not with the design of testing the value of the process, but of proving the efficiency of the vaccine matter after it had been imported from Europe. He thinks that the success of the operation was hardly to be expected, and he considers it an error, to express it very mildly, to conclude from this experiment that the inoculation theory is wrong.

We coincide entirely in the opinion that an exaggerated importance has been attached to the Nebraska experiments. We fail to find any evidence of that strict scientific accuracy which is claimed for them, and we are very certain that the conclusions go far beyond anything that can be legitimately demonstrated from the reliable part of the observations.

It seems to us, however, that Dr. Liautard's conclusion is as little justified by any known evidence as is that of Dr. Gerth, which he criticises when he writes: "If the cold logic of fact (a single fact) seems to disprove the theory in Nebraska, what shall be said of the same logic of facts (in the plural) which prove it to be almost a certain success, and almost the only prophylactic measure against hog cholera in most of the countries of Europe, whenever the process has been repeated with fresh vaccine?" He has furnished no evidence and we have failed to find any in the literature of America or Europe, which establishes the theory on any reasonable basis, that the disease which Pasteur is vaccinating for is identical with the hog cholera of America; and it would appear that the use of the American term, hog cholera, in

connection with this European disease of swine is somewhat premature, and may turn out to be a glaring misapplication of the name.

Dr. Liautard refers to the errors of Dr. Gerth because he feels it to be his duty to correct them, for otherwise they "might result in serious injury to the interests of the swine-breeders of the country." The writer of this communication is quite inclined to look at what he conceives to be the errors of both of these gentlemen from very much the same point of view that is adopted by the able editor of the REVIEW; and at all events he is certain that an account of his experiments with the Pasteur vaccine and his conclusions in regard to it will be of interest and, he hopes, of some value to the readers of the *Gazette*.

In October last Dr. Liautard had the kindness to furnish the Bureau of Animal Industry with a tube of each kind of vaccine prepared by M. Pasteur for swine disease. We suppose that this was from the same lot as that which was sent to Dr. Gerth, and it would seem that the objection brought against Dr. Gerth's experiment in regard to the period which had elapsed between the preparation and use of the virus would not apply in our case, at least not with the same force. We received the first vaccine October 16 and used it the same day; consequently if this had been prepared about September 25 it would only be three weeks old at that time.

The first vaccine when it reached us still had considerable activity. It killed two mice out of three that were inoculated with it. Four pigs were vaccinated; two of these had five drops each and the two others about thirty drops each. Strangely enough, one which had only received a dose of five drops died, while the three others showed no signs of being affected by the virus.

The second vaccine was received by us October 23, but as sufficient time had not elapsed since the first vaccination the tube was kept in a cool place unopened until October 28, when the second vaccination was made.

I would explain here for the benefit of those who have not followed Pasteur's investigations that two vaccines are prepared and both are used upon each animal. One of these is supposed

to be stronger than the other. The first, or weaker vaccine, is designed to give a partial immunity from the disease, and enables the pig to resist the second or stronger vaccine, which would be dangerous to the life of the animal if used before the protective influence of the first vaccine has been acquired. The second vaccine, while not quite so strong as the unmitigated virus of the disease, is near enough to this strength to increase the degree of immunity to such an extent as to enable the animal to resist the very strongest virus of the plague. In other words, this is the theory of Pasteur's vaccine, but we shall soon see that the theory has some exceptions in practice.

In this case the second vaccine did not appear to be as strong as the first; the germs did not grow so well in culture liquids, and they were less deadly to mice. The three pigs remaining from the first vaccination were given a dose of two and a half drops each, which is the dose prescribed by Pasteur. In addition to these two other pigs were given about thirty drops each, our object being to produce the disease if possible, that it might be compared to the American swine plague. None of these animals, however, showed any signs of being affected even to the slightest degree by this vaccination.

The next point was to expose these vaccinated pigs to our American swine plague and learn if they had acquired the power to resist its contagion. Accordingly, one week after the second vaccination, the five pigs which had been operated upon were penned with two others that were taken from a herd affected with swine plague and that were undoubtedly sick with this affection. As a result of this exposure three of the five contracted the disease and died from very acute attacks. It seems evident, therefore, that the Pasteur vaccine cannot be relied upon as a preventive of our hog cholera. To this extent our conclusion coincides with that reached from the Nebraska experiments.

In another communication I will attempt to give the reason for this and hope to be able to show that the experiments that have been made by the Department of Agriculture have added considerably to our knowledge of the destructive malady popularly called hog cholera.

MORE ABOUT OUR ARMY VETERINARIANS.

Remarks by Dr. Wm. Herbert Lowe, of Paterson, N. J., State Veterinary Inspector.

Gentlemen of the Veterinary Medical Association of New Jersey:

In view of some correspondence I have had as Secretary of our society, I am desirous of asking your attention to a subject which I trust you will deem of sufficient importance for consideration.

The leading editorial in a recent number of the American Veterinary Review (presumably by Professor Liautard), is entitled: "Army Veterinarians." That article, and some correspondence with which I have been favored by a member of the Royal College of Veterinary Surgeons who is now in the service of the United States forces, have directed my attention to the present status of our army veterinarians.

It appears that their standing, professionally and socially, is in strange contrast to that of veterinary surgeons in the leading armies of Europe, where they hold the rank of commissioned officers, and enjoy such social relations as are usually accorded to professional men who respect themselves. Army veterinarians in our own service show an anomalous condition of affairs, which naturally awakens inquiry, not alone regarding their standing and numbers, but also concerning the treatment which cavalry horses and other animals receive in the service.

If I am correctly informed, the British War Department employs about two hundred veterinarians for thirteen thousand animals, whereas the U. S. War Department employs only about fourteen veterinarians for over fifteen thousand animals. What, therefore, must be the loss of property for want of proper treatment? And how much is the efficiency of the force lessened as a consequence? It may be said that troop horse-shoers and farriers are detailed for such services, but their materia medica and surgical qualifications need hardly be discussed on this occasion. Athough, according to Act of Congress, "each cavalry regiment shall have one veterinary surgeon," it is said that the 4th Cavalry, owing to personal whims, has been without a veterinarian for some years.

As a consequence of the present not merely defective but wretched system, large numbers of unsound animals, unfit for service, are anually purchased without regard to proper veterinary examination. The mortality is, therefore, large, and the yearly list of the condemned is necessarily long. No other civilized army presents so high a death rate as ours, which calls for a yearly appropriation of nearly a quarter million of dollars. On one occasion an outbreak of glanders, for want of proper precautionary measures, caused the sacrifice of several human lives and a money loss of property estimated at about fifty thousand dollars.

Turf, Field and Farm, in a recent issue, says:

"Outbreaks of glanders alone during the late war frequently rendered a whole regiment of cavalry temporarily useless until a new supply of horses could be forwarded to the front and broken to their new work, and when the war ended the country became flooded with glanders through contact with army horses bought by farmers, and which had received no intelligent veterinary attention, and hence were impregnated with a contagious disease that was readily disseminated through the country. We well remember during the war seeing many cases standing tied to the picket-line, and with a good horse on either side, in advanced stages of the malady, and no one apparently knowing or caring anything about it. This circumstance alone was undoubtedly the cause of the spread of the disease, and there is no doubt the same condition exists in the army to-day. There is but one way to overcome this difficulty and save a great and unnecessary loss to our Government, and that is to raise the status of veterinary surgeons in the army to the rank, say, of the commissioned line officer. This alone is the only step required to induce educated veterinarians to enter the Government service, administer to the ailments of the horses, see that animals already impregnated with disease are not palmed on the departments as sound, prevent the spread of disease, and thus in the end save their salaries to the Government many times over."

With no adequate or competent veterinary corps how can so vast a number of animals as belong to the service be in any other than a deplorable condition, and yet no encouragement is given

to qualified veterinary surgeons, either as regards rank or reward, for scientific services. If, however, the Government will not think of its horses, that is no reason why veterinarians should not think of themselves, and, so far as they are concerned, what is the remedy? It is, I think, proper to say that in the present condition of affairs graduated veterinarians should not remain or take position in the service where they are paid hardly enough to live, have but a poor prospect of promotion or pension for services or injuries to which their profession renders them so liable. Happily there is plenty of professional work outside of the army, so that the veterinary surgeon can do better without the army, than the army can do without him. Surely, the animals of our cities, great and small, and the flocks and herds which range our vast domain, afford, and will continue to afford at paying prices, plenty of work for competent veterinary surgeons. But the time is not distant when army veterinarians will be satisfactorily recognised and rewarded. This will as surely follow the present condition of affairs, as that rivers flow down to the sea.

It is not necessary to survey here the extended fields of research necessary to fit the veterinary practitioner for the active duties of his profession. All of you, gentlemen, are quite familiar with this, and also know that inadequate services only can be rendered when there is want of proper study and practical experience. But it is well to keep the fact in view that what costs so much time and labor, and has so extensive an application for economic and humane purposes, is worthy of recognition and reward. The necessary knowledge is not to be picked up along the roadsides, nor is it to be found in battle fields where, as things are now, the poor wounded war horse, with little or no care, so often struggles in anguish "through the last dark passages of existence, without either the pride of the soldier, the reason of the philosopher, or the hope of the Christian—that is evil, pure and unmixed!"

One word more as to the social status of the veterinarian. I venture to prophesy that ere long he will in our army, as in the armies of England, France, Germany, Russia, Italy, Sweden, etc., rank as a commissioned officer, the grade probably varying, as in

Europe, from lieutenant to colonel. Already in other departments of our Government service, it is but just to say, the veterinarian has rank and reward, as instanced by veterinary officials in the Bureau of Animal Industry, and the State Inspectors and their assistants.

But aside from titles, which are coming, real rank, in the army as in civil life, will be what each one makes for himself. The world is familiar enough with the title horse-doctor in the *odious* sense, but it was well earned. It is our aim to let the world know what it is in the *scientific* sense. Much has already been accomplished. Nor has the world, all things considered, been slow in its acknowledgments or miserly in its rewards.

Most of the complaints made against the world, in the professions, as in other pursuits, are unjust. Men of merit may neglect the world, but the world seldom neglects men of merit, in any business or profession, unless it be their own fault. The world has certainly awarded to the shining lights of comparative medicine and surgery all the distinction that heart could wish for, as shown by Bouley, Chauveau, Fleming, and hosts of others whose names are familiar to us.

AMERICAN VETERINARY COLLEGE.

HOSPITAL RECORDS.

By James A. Walrath, D.V.S., House Surgeon.

CEREBRAL INOCULATION AS A MEANS OF DIAGNOSIS IN THE POST MORTEM OF RABID ANIMALS.

A note was received by Dr. Liautard, on the 14th of April, from Dr. L. D. Buckley, of this city, informing him of a case of much interest, and requesting his counsel and co-operation. A dog had bitten a Miss M——, also biting other dogs, and had been killed, a careful post mortem examination following. Dr. L.'s expert judgment and his immediate attention to the case were urgently solicited. The body of the dog was received at the American Veterinary College the same day, and the result of the inspection which followed disclosed the following serious lesions:

There was congestion of the fauces; the stomach and intestinal tract were empty, with slight congestion of the former, which contained a single large bird feather; the kidneys were somewhat congested, and the bladder was *empty and retracted*, and also somewhat congested. These appearances were considered to be sufficient, taken in connection with the history of the case, to justify a diagnosis of rabies, and a report to that effect was made to Dr. Buckley. But, while it was urgently recommended by Dr. L. that the injured lady should be taken to Paris, in order to place herself under the treatment of Pasteur, with the least possible delay, it was thought to be expedient, in view of the present advanced condition of medical science, to institute a further test, as confirmatory or otherwise, of the diagnosis which had been already reached. For this purpose it was proposed to resort to Pasteur's method of cerebral inoculation, and the following notes will inform the reader with what results the suggestion was carried into effect.

A living dog had been provided for the experiment (the brain and medulla oblongata of the dead animal having been carefully preserved), and, being placed under complete anesthesia, on the morning of the 15th, the observations commenced.

The cranium was trephined, a little on one side of the median line, the dura mater was carefully divided, and a small portion of the medulla of the first dog placed over the cerebrum of the second. The edges were brought together with sutures, protected with wadding and collodion, and the animal placed in a secured kennel for observation. He recovered well from the anesthesia, ate well, felt well, and the wound healed slowly, with no appearance of anything abnormal in his condition, until the 30th of April. He then seemed to become more than usually affectionate towards the house surgeon who had his case under observation, and to those who had the care of him, and was very quiet generally.

On the following day, the 1st of May, and the sixteenth from that of inoculation, the first symptom of *dumb rabies*, viz., paralysis of the lower jaw, appeared. The mouth was slightly open, the jaw hung down, and there was an abundant flow of saliva. His manner was still very affectionate.

May 2d, the paralysis of the lower jaw had increased, the poor animal had become very feeble and tottering in his gait, and symptoms of paraplegia began to be manifest. His sleep seemed to be disturbed; his tongue partly hung from his mouth; he showed no tendency to bite, and was probably unable to do so.

The diagnosis which had been formed from the autopsy of the first dog was now confirmed, and it was reaffirmed decisively by that of the second—the poor victim having succumbed on the night of the 3d–4th.

May 4th, the autopsy was made, and the following lesions discovered. The pharynx was highly congested, and contained considerable foreign matter, such as hay and straw. The stomach was in a similarly congested state, and contained matters similar to those found in the pharynx, and a small filaria besides. The intestines were empty, and the bladder empty and firmly retracted in the pelvic cavity.

The bitten young lady had left New York for Paris on the 22d of April, and as she could scarcely be expected to reach Paris sooner than the 2d or 3d of May, she had no time to lose before placing herself under the care of M. Pasteur. Accordingly, on the 3d of May, at the earliest day when the experiment with the second day had become conclusive, as to its demonstrative results, M. Pasteur was notified of the facts by Dr. Liautard, to which he received a reply, on the 2th, conveying the gratifying intelligence that the patient had already received her third inoculation two days previous, or on the same day when Dr. L. had forwarded his last despatch.

PARALYSIS OF THE THROAT—ABSCESS AT THE BASE OF THE CRANIUM AND IN THE LEFT GUTTURAL POUCHES.

By the Same.

The subject of the following article, a grey gelding, was admitted to the hospital on the 22d of March, suffering with paralysis of the pharynx. He had been seen and treated for the above disease several days previous to his admission, when it was thought advisable to have him brought here and put under treatment.

The history of the case is about as follows. For several weeks he had been noticed to be out of condition, eating well but still seeming to grow poor. When, one afternoon, on being taken out to drive, the owner, in ascending a slight eminence, noticed the animal roar some, and seemed to be unusually fatigued.

On returning, a veterinarian was called in, who gave the animal a purge, making it out a case of "intestinal irritation." The animal purged freely for some thirty-six hours, and at the end of this time became so weak as to be hardly able to stand, refusing all food and being unable to swallow, except after repeated attempts. Saliva now began running from the mouth, being of a stringy, frothy character, and flowing out in large quantities. It was about this time that he came to the attention of the college, and was put under electuaries of belladonna, and had a cantharides blister thoroughly rubbed around the neck.

Upon being brought to the hospital, an examination was made of the pharynx, the mucous membrane of which was found to be flabby, and with but little reflex action when touched with the hand. Electricity was now applied to the region of the throat, by the poles of a galvano-electric battery, one being held on either side and slowly passed up and down, causing a direct current to pass through the affected structures, evinced by the animal's repeated attempt at swallowing. This was kept up for about twenty minutes, and gone through with three times a day. Strychnia was also given in two grain doses three times a day. For the first day or so the a slight improvement seemed to take place, the animal drinking about two quarts of milk per day, but would eat no oats nor hay. The electricity was then increased to half an hour, but the animal seemed to be at a standstill and gradually became worse. The strychnia was also increased to two and one-half grains three times a day, and finally to three grains, and the electricity discontinued. This was kept up until symptoms of strychnia poisoning were observed, when it was cut down to a grain and a half, in combination with the same quantity of nitrate of silver; but without any good results, the animal gradually growing weaker, as he refused all nourishment, until April 3d, when he died.

Upon post mortem examination, the pharynx was found full of

mucosities and highly congested. The left guttural pouches had their walls considerably thickened and somewhat retracted, and contained a small quantity of inspissated pus, scarcely an ounce. This seemed to communicate with a smaller purulent collection situated directly under the foramen lacerum. The glosso-pharyngeal nerve of that side was thickened, congested and the nervous substance appeared softened and degenerated. It is now prepared for microscopic examination, and its condition will be reported later on.

When taking into consideration the location of the abscess and the lesion of the nerve, the paralysis of the pharynx can be readily understood, while, at the same time, the small size of collection and its deep situation at the base of the cranium, must necessarily exclude the possibility of its puncture per mouth, as recommended by some veterinary authorities.

LACERATION AT THE METATARSAL REGION—NECROSIS AND SLOUGHING OF A LARGE PIECE OF BONE.

By the Same.

A green horse, becoming frightened at the elevated railroad, ran away, and in turning a corner got his near hind leg into the opening of a sewer and was brought to the college with a wound of the anterior metatarsal region, about eight inches in length, and laying bare the bone, and denuding it of its periosteum. Not much hæmorrhage took place, but there was a loss of some tissue. The flap of skin was stitched up and cold water bandages applied. It immediately commenced to slough, granulations springing up which were controlled by pressure and caustics. After some three weeks the wound had partially closed, but leaving a wide fistulous tract leading to the bone, through which a probe came in contact with the roughened and diseased scale of bone corresponding to that portion from which the periosteum had been removed. It was gradually becoming loosened, but the scale was so large that its removal was postponed until the twenty-fourth day after the accident, when the scale was seized with a pair of tooth forceps and removed. It was still firmly attached and was withdrawn

after much trouble and by using considerable force. Quite a severe hæmorrhage took place after the operation, but was easily controlled by cold water bandages and pressure.

The fistulous tract immediately began to close up, and in one week no trace of it could be found. The granulations are yet quite prominent, but are decreasing in size. The animal was discharged several days since, but is still brought back for dressing. The scale of bone removed was about six inches long and one in width, and was taken out in two pieces.

EXTRACTS FROM FOREIGN JOURNALS.

THE IMPERFORATION OF THE POSTERIOR MEDIASTINUM AND THE DISTINCT INDEPENDENCE OF THE TWO PLEURAL SACS IN THE HORSE—PRACTICAL CONCLUSION.

A paper read before the Societie Centrale de Medécine Veterinaire, by M. Barrier.

Allow me to occupy your attention upon a disposition of the posterior mediastinum of the horse, not mentioned in our classical works on veterinary anatomy. I refer to the fact of the imperforate formation of that system, and of the distinct separation between the two pleural sacs.

It is known that on the cadaver, the posterior mediastinum ordinarily appears covered, more or less, with little openings, which seem to establish a communication between the two pleural cavities. These openings are sometimes seen also on the anterior, but certainly are these less numerous than in the posterior mediastinum. Our views on this subject are so frequently proved by dissections and clinical observations, that every veterinarian accepts them as the expression of a normal condition, and believes that the conclusion of double pleuritic exudation is the proper logical consequence of it.

But in truth, these affirmations are quite too absolute. If the perforation of the median septum is apparently the *rule*, it is not the invariable law, but is subject to a great many exceptions. I have thought proper to call your attention to this physiological

fact, from which the clinic may derive much profit, and shall depend for my statements upon dissections, histological observations and a few experimental facts, to all of which I shall refer.

1st, DISSECTIONS.—(*a*) When the abdominal cavity of a horse is opened for examination of the condition of the posterior face of the diaphragm, this is seen, very depressible, powerfully stretched, and pushed forward by atmospheric pressure. Every one knows that in these conditions the external face of the lung rests directly upon the internal face of the ribs. But if, by an opening through any of the inter-costal spaces, air is allowed to enter the chest, the pressure being then equal upon both surfaces of the lungs, this organ shrinks down by reason of its elasticity, and the diaphragm, at first concave backwards, becomes at once flabby and soft, in consequence of the equality of the pressure on both surfaces.

The same procedure with the ox, or any other of our domestic animals, gives different results. But half of the diaphragm shrinks down, being that of the side on which the chest has been opened. And this is the case because the two pleural sacs remain independent; because the mediastinum is not perforated.

For years I have observed, in the horse, the same phenomena, viz.: the flabby condition of one side only of the diaphragm, after the consecutive opening of the abdominal and then of the thoracic cavities. How can we explain this fact, unless by admitting that the mediastinum is not perforated in the subjects where I have observed it?

(*b*) Very thin and delicate in its normal condition, the mediastinic septum is, in most cases, much exposed to be torn under the influence of an accidental mechanical cause, however slight in appearance.

This is easily demonstrated when, as in the experiment before mentioned, air is allowed to enter slowly one of the pleural sacs through a facetted tube. In this case the unilateral slacking of the diaphragm will be obtained with so much more facility according as the facette will have been slowly opened. *A fortiori*, this will fails every time the thorax is opened widely by the sudden removal of several ribs.

(*c*) I have observed some eight or ten times, and always by chance, the thickness, resistance and complete imperforation of the mediastinum upon cadavers in which not the slightest care had been taken to prevent the laceration of the mediastinum. In these horses, the mediastinum had, without exaggeration, the characters of solidity and of homogeneity equal to those of the mesentery itself.

(*d*) In observing attentively the posterior mediastinum upon the cadaver, after making a large opening in the thorax, on the same side, and after raising the lung to expose it, the openings of the mediastinum are seen increasing more and more in size and in numbers, and after a short time the membranes will have the appearance of a delicate piece of lace; something very different from that which it first presented. These successive lacerations are due to the abnormal tractions put on the septum under the influence of the flabby condition of the lung, and the relaxation of the diaphragm after the opening of the thorax.

This fact leaves no doubt as to the true nature of the mediastinic perforations described by authors as constituting their normal condition. Is it not sufficient to prove their purely accidental character?

(*e*) But, it is easy to observe *de visu*, the formation of these perforations. For this purpose let the two pleural sacs be opened simultaneously and with great care, by tubes with facettes, previously secured in the upper part of an intercostal space, similar on both sides, and then allow the air to enter very slowly, and *very often* the mediastinum will be preserved intact. Then observe carefully and with a magnifying lens the serous surface. At first very small openings will be observed, but these will by degrees increase. Evidently the success of this experiment will vary according to the delicate condition of the membrane. Indeed, in some instances, this is so much the case that the perforations are already formed, when the lung is raised to expose it.

2d, Histological Examinations.—What has just been observed with the magnifying lens is confirmed by microscopical examination in a very positive manner.

The mediastinum being carefully exposed from both sides of

the chest, let a glass slide be laid against it. On account of its natural moisture, the membrane soon adheres to the glass, while still retaining its normal and physiological condition, provided no excess of pressure has been put on it. Let the membrane then be carefully divided so that a fragment of it shall be isolated upon the glass, and colored with a few drops of picro-carminate of ammonia solution, and the following results will be observed:

1st, A fibrous network, formed of connective fasiculi, of various sizes and of very fine elastic fibres. The connective fasiculi are intercrossed in all directions, but in the same plane. They thus represent numerous very uneven networks of handsome appearance. The smallest of these are bound by very delicate threads, in the centre of which no capillary vessels can be found; a condition which explains their great fragility.

2d, A layer of endothelial cells, polygonal by reciprocal pressure, upon each of the faces of the serous membrane. The examination of this endothelium can be made directly in the picro-carmine after a few hours, but is better observed in nitrate of silver solution.

That which is interesting to us is, that in the centre of the largest network the two layers of endothelium only are to be found; there is no connective tissue between them. It is at these points that the serous surface is most delicate and liable to tear.

When the preparation has succeeded, the membrane presents only very few holes, and sometimes none can be seen. But when they do appear, they present special characters. The endothelium appears in them with evidently torn edges, which are formed of cells which have assumed the circular form, in the parts where they are free; but have a polygonal form when they adhere to surrounding cells.

In tearing, the endothelial covering retracts. It shrinks towards the vascular tracts of the membrane, where it is most supported, and as a consequence a certain number of the finest trabeculæ are exposed.

Whether the openings have been artificially formed during the

manipulations of the preparation; whether they were natural, or existing *previous* to the manipulations for the histological examination—they always have the same characters, viz., they are *endothelial lacerations*, and not *natural* openings, such as those which are observed in the great omentum.

In this last serous surface, the endothelium shows no separation, howsoever fine it may be. It is continuous with itself all over; its cells are polygonal all over, and present circular edges everywhere.

From these facts I am brought to the conclusion that the openings of the posterior mediastinum are of recent existence, and probably are generally *artificial*. However, as those histological examinations are only limited, I am not prepared to deny any other explanation of their formation.

3d, Experiments on the Living Animal.—I have several times tried to demonstrate by experiments the distinct separation of the two pleural sacs, but I have succeeded only once. The other trials have for various reasons failed.

On the 17th of February, 1884, I marked with a pair of scissors, upon an old subject for desection, the curve of inferior dullness of the chest, on both sides of that region. Five liters of distilled water, at a temperature of + 30 degrees, were then, very slowly and with the greatest care, injected into the left pleural sac. During the injection, the subject was kept quiet, and struggled very little. After the injection, percussion was made on both sides of the chest. On the left side, the line of dullness was raised eight centimetres; curved at first, it had become horizontal. On the right side the level dullness remained the same. The injected liquid then remained in the left pleural sac. This condition lasted a little more than *an hour*.

After a short time the animal was moved in order to see whether, under the influence of the injection the rupture of the mediastinum had taken place. Percussion on both sides of the chest showed; the *left*, a lowering of the horizontal line of dullness, three centimetres. It still remained horizontal. On the *right* side the original curve was the same, auscultation on that side giving the respiratory murmur, while it was absent on the other.

Supposing that the mediastinum had been torn during the exercise, and that the liquid was passing from the left to the right sac, this side was again percussed, when a notable elevation of the line of dullness was detected, and an horizontal direction observed, as in the left side. On this, the dullness had lowered two centimetres more, while on the other it had risen until it had reached the level of the left.

The next day, the animal was killed, and examination revealed all the lesions of acute pleurisy, with a thick layer of false membrane upon the lungs. The pleural effusion, of which there was nine liters, was of a reddish color. Examined with the microscope, the mediastinum showed perforations resulting from the tearing of the mediastinum jnst as I have already described. From these facts I believe I am authorized to adopt the following conclusion:

1st, The posterior mediastinum of the horse is a membrane, absolutely unperforated, in some cases, during life and after death.

2d, This membrane is generally very delicate, and consequently exposed to be torn, both during life and after death, under the influence of the slightest cause.

3d, Perforations have the character of recent endothelial lacerations, and not that of natural foramina, analagous to those of the great omentum.

4th, The openings found post mortem, as evidence of the normal condition, are probably only partial lacerations, produced accidentally through the manipulation of dissection.

5th, There may exist in horses, *unilateral* pleuritic inflammatory exudation, *temporary*, when the septum is delicate; permanent when it is resisting.

6th, At the onset, pleurisy must be very difficult, if not impossible to detect by percussion, for the reason that it is probably always, then, unilateral, and that the effusion cannot be detected until the collection has passed the line of inferior dullness of the chest.

7th, If the normal fragility of the mediastinum explains the ordinary duality of pleurisy in horses, it does not disprove its unity in the beginning of the disease.—*Bull. Mem. Soc. Cent. de Med. Vet.*

FRACTURE OF THE THIRD CERVICAL VERTEBRA.

By J. A. Nunn, A.V.D.

The patient, a country bred mare, was admitted into the hospital of the Lahore Veterinary School, on May 24th, 1885, at about 3:30 p.m., suffering from what was described by the owner as an injury to the neck. The animal had been fastened up by a chain, one end of which was attached to a large log of wood, the other to one of the fore fetlocks. She was frightened at something, ran back, and jerked the log into the air, and it, on falling back struck the neck, causing the injury; this was done about 1:30 p.m. When seen there was a slight loss of power in all four limbs, which were straddled apart, the animal moving with a swinging gait and staggering as if there was a difficulty in maintaining the balance. The neck could be moved with tolerable freedom, but was kept turned to the left; on the right a tumor about 6 inches in diameter could be felt extended over the region of the third vertebra. On my attempting to examine the part, the patient plunged violently and fell over on the right side, but arose again without assistance. This was repeated twice, but after the third time she remained down until she died, appearing partly paralyzed and insensible to pain. The off hind leg, the undermost one, was moved spasmodically from time to time, and sensation was much less on the near than the off side. The pupils contracted and expanded to light, the respirations and pulse were normal, and the appetite remained up till the last, but only a very small quantity of urine or fœces were passed when the patient first fell down. She died at 5 p.m., on the 25th idem, without a struggle, about twenty-six hours after the accident. On examination, the third cervical vertebra was found to be fractured into a large and an infinite number of smaller pieces, some of which were almost in a state of powder. The spinal cord was uninjured but enveloped in a clot of blood inside and outside the theca, which was ruptured opposite the injury. The whole of the vessels of the brain were much engorged with dark blood, and at the base there was a small quantity of dark-colored serum. The fracture was not displaced except the transverse process on the

near side, which was detached from the body of the bone and displaced outwards. The most curious feature of this case appears to be the length of time the animal remained alive after the injury was inflicted.—(*Quarterly of Veterinary Science in India.*

FATTY TUMOR ON THE PENIS OF A DONKEY.

By the Same.

The patient was a Government Italian donkey stallion, and had been out during the covering season in a very remote district of the Punjab. The history of the case appears to be that a small ulcer formed on the dorsum of the penis "probably aggravated by dirt," and had been treated by a native salootrie. What the nature of this treatment was is unknown, but I think some irritant dressing, in which oil of turpentine was one of the chief ingredients, was used. This happened some time in the beginning of April, and the animal was sent in to the Lahore Veterinary School for treatment on the 2d of May. The donkey was then in good condition, the penis was pendulous, hanging out from the sheath as if drawn down by the weight of the tumor, which was the size of a tennis ball and situated on the dorsum surface at the base of the glans, on which and at the opening of the urethral canal were several small pitted ulcers with rounded pale colored edges. The tumor was operated on May 8th, being first secured by acupuncture with a seton needle, and then removed by a longitudinal incision. It was distinctly fatty in nature and there was little or no hemorrhage. There was a considerable amount of œdema and swelling. The whole of the organ was supported in a sling till the 24th. The case did well, the ulcer on the glans and the wound caused by the removal of the tumor healed up, and the penis regained its natural flaccid condition. As far as my experience goes, donkey stallions especially are liable to these fatty tumors on the penis. I have seen three other cases in Spanish and Italian donkeys used by the Government in India for mule breeding, but that I have just described is the only one of which I have any notes.—(*Quarterly of Veterinary Science in India.*)

PATHOLOGICAL ANATOMY.

PARASITIC NATURE OF MELANOSIS AND OF SOME MELANOTIC TUMORS.

By L. Bard.

Clinical facts can be cited in favor of this parasitic origin—a primitive focus externally, at the extremity of a leg—localization and prolonged stationary condition—very rapid generalization.

From the point of view of the anatomo-pathological student, melanotic tumors may be divided into three groups. These are, firstly, cystic masses, where the tissues have all disappeared; secondly, simple circumscribed melanotic masses in the form of tumors; and thirdly, tumors of small size, with small granular melanotic centres.

This last variety is the type of the second growth, of recent formation, constituting the first steps towards melanotic development. The progressive advance of these alterations, the presence of fragmentary granulations around the centres of propagation, their accumulation, and continuous increase, as the lesion, during its progress through the economy shows itself—these anatomical facts suggest to the author the idea that the melanotic granules might be the pathologenic parasitic organism. It may not be a microbe, but one of those sporula organisms, the fungi of the actinomycosis kind, which would be the propagating agent of the disease.—*Revue des Sciences Medicales.*

UPON A MICROBE WHOSE PRESENCE SEEMED TO RELATE TO RABID VIRULENCY.

By H. Fol.

By employing the method of Ehrlich and Weigert for hardening and coloring the sections, and using sections of one two-hundredth millimetres thickness, Mr. Fol has succeeded in finding in the marrow of rabid animals, elements which are not found in the healthy marrow. These are groups of small globules, resembling micrococci, lodged in the nevroglia, or in cavities having

the diameter of a myeline fibre. These spherical grains are arranged without marked order, and do not form chapelets.

In cultivating the rabid brain, these elements are found in the sediment of the cultures. And if this sediment is inoculated before the fifth day, it gives rise in some cases to rabies, but with an incubative stage of some length. After the sixth day the inoculation of the cultures remains negative.—*Ibid.*

EXPERIMENTAL PATHOLOGY.

UPON THE PRESENCE OF MICRO-ORGANISMS IN THE LIVING TISSUES OF HEALTHY ANIMALS.

By M. Hauser.

Mr. Hauser has made experiments as follows:

Healthy animals were destroyed by a violent blow on the poll. Then, observing strictest and most perfect antiseptic precaution, the operator would skin the animal while still warm, and remove with sharp instruments, heated by fire, pieces of flesh and of different organs. These anatomical specimens were then preserved in previously heated recipients, containing either air or gases which had been filtered through either wadding or water, or bouillons of culture previously sterilized. After remaining some time in these media, the pieces taken from the organs were taken out and examined for the possible presence of micro-organisms, the water and the liquids being similarly treated. The results led him to the following conclusions:

1st, In the liquids and tissues of healthy living animals there exist no germs either of putrefaction, or any other species of bacteria.

2d, When they are kept from contact with all schizomycetes, tissues of animal, preserved in air, in gases, such as oxygen, hydrogen or carbonic acid, or in water and bouillons, they undergo regressive changes, analogous to those observed in the tissues of the living body, when these are attacked with necrosis, consecutive to simple troubles of nutrition, and with any bacterial influence.

3d. The products of decomposition, resulting from the dissociation of tissues, in the above mentioned condition, are free from any pathologenic properties.—*Ibid.*

VETERINARY LEGISLATION.

AN ACT TO REGULATE THE PRACTICE OF VETERINARY MEDICINE AND SURGERY IN THE STATE OF NEW YORK.

The people of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. No person shall practice veterinary medicine and surgery, or any branch thereof, as a profession in this State for compensation, or shall, either directly or indirectly, receive or accept for his services as a practitioner of veterinary medicine or surgery any fee or reward, except he be duly registered as hereinafter provided in the book for that purpose in the office of the Clerk of the county in which he resides.

§ 2. No person shall be entitled to register as such practitioner unless he be a graduate of a legally chartered or incorporated college or university, or shall hold a certificate of qualification from a legally incorporated veterinary society, organized at least one year before the passage of this act, and such certificate shall be issued at least one year previous to January 1, 1886, except as provided for in Section 3 of this act.

§ 3. Any person who has been practicing veterinary medicine and surgery in this State for a period of not less than three years preceding the passage of this act, without having obtained a diploma or certificate from a legally chartered or incorporated veterinary college, university or society, as provided for in Section 2 of this act, must register within six months after the passage of this act, upon making and filing with the Clerk of the county in which he resides an affidavit, stating that he has been so practicing veterinary medicine and surgery for the period hereinbefore prescribed.

§ 4. The County Clerk of each county shall provide a book to be known as the Veterinary Medical Register, in which shall be recorded the names of the registrant, the name of the college or university granting his diploma, or of the society granting his certificate; or should the applicant not present such diploma or certificate, then the Clerk shall file the affidavit prescribed in Sec-

tion 3 of this act, after which such applicant must register in like manner as if he had presented a diploma or certificate from a veterinary college, university or society, and shall then be entitled to continue the practice of veterinary medicine and surgery. Every applicant who shall have complied with the foregoing provisions, and shall be admitted to registration, shall pay to the Clerk of said county the sum of $2, which shall be received in full compensation for such registration.

§ 5. Any person who shall present to the Clerk for the purpose of registration any diploma or certificate which has been fraudulently obtained, or shall practice veterinary medicine and surgery without conforming to the requirements of this act, or shall otherwise violate or neglect to comply with any of the provisions of this act, shall be guilty of a misdemeanor, and shall, for each and every offence, be punished by a fine of not less than $50 nor more than $250, or by imprisonment in the county jail for a term of not less than ninety days nor more than two years, or by fine and imprisonment. But nothing in this bill shall be construed to prohibit students from prescribing under the supervision of preceptors, or to prohibit gratuitous services in case of an emergency, or to prohibit the services of an authorized practitioner of a neighboring State when incidentally called into requisition.

§ 6. This act shall take effect immediately.

SOCIETY MEETINGS.

NEW YORK STATE VETERINARY SOCIETY.

The regular monthly meeting of the New York State Veterinary Society was held on Tuesday, May 11th, 1886, in the lecture room of the American Veterinary College, the President, Dr. R. W. Finlay, in the chair.

A large number of members answered the roll call.

Minutes of last meeting were read, and on motion to adopt same, Dr. R. A. McLean took exception to the part which stated he had been appointed essayist for the meeting, claiming that it was not correct.

The Secretary said he had entered it on the minute book with the authority of the Chair, as the gentleman had promised to do so at a previous meeting.

The Chair explained when and how the promise was made. Dr. R. A. Finlay held with the chair, adding that he had promised at the same time to follow Dr. McLean with a paper.

On motion, that portion of the minutes naming Dr. R. A. McLean as essayist for the evening was struck out, and when so corrected, were ordered adopted.

The Chair then called upon Dr. R. A. McLean to read a paper, who replied that he was not ready to do so, and a call was then made for reports of committees.

Dr. R. A. McLean, Chairman of the Board of Censors, reported favorably on names of John Fay, V.S., Otto V. Lang, V.S., John C. Shifford, V.S., and John S. D. Donnelly, V.S., which was, on motion, received.

Dr. Pendry, Chairman of the Committee on Legislation, read a report stating that the work of the committee had been brought to a satisfactory issue. The bill had been passed in the Senate with only one opposing vote, after an amendment had been made in Section 3, by striking out the word "continuously" and the words "for a means of livelihood," which had been concurred in by the Assembly by seventy-eight votes, and read a telegram, received during the meeting, from Albany, stating the bill had just been signed and was then law. The report stating that the total expense of the committee, including printing, etc., was under sixty dollars, and asked that the committee be discharged.

On motion to receive report and discharge committee with thanks, Dr. R. A. McLean said he failed to see what the profession had gained by the passage of the bill, and contended that the profession was in a worse position now than before; the bill was not the same as that sent to Albany; he considered the present bill legalized every blacksmith and stableman in the State; he considered the Chairman had taken too much authority upon himself in having agreed to the amendments without the authority of the Society. He criticised the bill and committee at considerable length.

Dr. Field said he was sorry to see any member of the Society get up and throw cold water on the work of the committee, whom he considered had done well; while he was sorry that the last amendment had been obliged to be accepted, he considered they had done the very best that could be done, and deserved thanks instead of criticism; so far as Section 3 went, the whole of it would be wiped out in six months, and after that time only graduates could register.

On motion the bill as passed was read by the Secretary, when Drs. Delesser, C. C. Cattanach, and the Chairman said they failed to see the bill in the light that Dr. R. A. McLean would have them see it; they could not see the disastrous effects that gentleman had tried to make out.

Dr. R. A. Finlay stated the Society had been fully informed by reports of the committees at previous meetings, of the changes made, and no objection was made; notice, too, had been given that there was a desire at Albany to make the last change.

Dr. L. McLean moved, seconded by Dr. Cuff, that Section 3 of bill sent to Albany be read.

Dr. Birdsale said he hoped the motion would not be carried; he saw no object to be gained; he considered the committee had done nobly.

The motion was put and resulted in a tie vote.

The President said he saw no good could result in having Section 3 of the first draft of bill read or in opening up a further discussion. He considered the committee had done well, a great deal of work had been done with remarkably little expenditure; considered that the better man would always find his place,

and ought to have nothing to fear; was well satisfied with the result of the committe, and considered a large amount of credit was due Dr. Pendry for the work he had done, and should cast his vote against the motion.

Dr. Pendry said he wished to reply to-day to what he considered a personal attack, due to what, he did not know, unless it was that the gentleman was afraid that it would be a personal loss to him to have a few of the outsiders legalized. Some people looked no further than that; it was the thought that was first, last, and always uppermost in their mind. He considered a good practitioner need have no fear. His idea of legislation had been for the benefit of the profession, not for himself; it could not be expected, neither could it be got, a law that would give immediate benefit; he had looked further ahead than it would appear some people had been willing to do; and contended that the all important point had been reached, when he had succeeded in getting our following reorganized and legalized as a profession. Section 3 of the bill, after all, really did not amount to anything; six months would soon run around, and we would know exactly who we had in the profession, and as licensed members died off, they could only be replaced by regular graduate members of the profession. As to the section about students, he could not see in the light the gentleman did. As to the charge that he had assumed too much, he denied it in the sense that it was made; the only thing he had assumed was the work, which he had ever been ready to do. If any blame was attached to the committee, then he was willing to assume the whole of that. It was perfectly true that when the last amendment was made, he had kept it somewhat to himself, because some members of the profession were so selfish that he was afraid to trust them. There was only one thing that he could be held to account for, and that was, that perhaps, had he been willing to accept an amendment exempting four counties from the provisions of the bill, the last words struck out might have been left in; his cry had been, a law for the whole State or none at all. If he had acted unwisely, then the Society could show its disapproval in a proper manner; but he hoped they would believe one thing, and that was, that whatever he had done, had been done with only one motive, which was to raise the veterinary profession in this State to some plane, where the law and the people would be obliged to recognize it, and this he contended the bill as passed did.

The report of the committee was then on motion, received and accepted with a vote of thanks.

On motion of Dr. J. S. Cattanach, a special vote of thanks was tendered Dr. Pendry for his exertions and services on behalf of the bill, who acknowledged same, and said he had never expected to be able to please every member of the Society, but he had expected to satisfy the most of them, and it was pleasing to see that this idea was not a delusion, by the way the motion was carried.

On motion, a special vote of thanks was passed to the Hon. John P. Windolph, as also a vote of thanks to the Hons. Jacob Contor, Ed. F. Fagan, Jacob W. Hoysradt and Ed. Wemple.

The following motion was then carried: That a committee of three be appointed by the Chair, to confer with the committee of three appointed by the New York County Veterinary Medical Society, to arrange a testimonial dinner to be tendered to the Hon. John P. Windolph and friends of the bill. Drs. Field, Dixon and Cuff were appointed as such committee.

The following gentlemen were then duly elected members of the Society: John Foy, V.S., New York; John T. D. Donnelly. V.S., Astoria, N. Y.; John C. Shifford, V.S., New York; and Otto V. Lang, V.S., Brooklyn.

A letter was read from Dr. Pendry, tendering his resignation as Secretary and Treasurer of the Society, which was, on motion, laid on the table.

After some interesting pathological specimens were exhibited by Dr. L. McLean, which resulted in a general discussion, the meeting adjourned.

MASSACHUSETTS VETERINARY ASSOCIATION.

The third annual meeting of the Massachusetts Veterinary Association was held at Young's Hotel, Boston, Wednesday evening, April 28th, 1886.

Vice-President John S. Saunders presided, and there were present Doctors Bryden, Blackwood, Howard, Peters and Skully of Boston, Cosgrove of Worcester, Osgood of Springfield, Sherman of Lowell, and Winchester of Lawrence.

The minutes of previous meeting were read and accepted, also reports of committees on charter, and revision of the constitution and by-laws.

The annual report of the Secretary was next listened to, which was a summary of the doings of the Association for the year just closing. He said there had been held during the year thirteen meetings at which there had been an average attendance of ten members, which was an indication of the unflagging interest taken in the work of the Association. He called attention to the number of papers read on a variety of subjects, and the discussions which in every case followed them. That all had been interested and instructed thereby went without saying. He also mentioned the large number of interesting pathological specimens exhibited, and said that much of the general enjoyment of the meetings had been due to the recital of the experience of the members in their private professional practice.

The meeting then proceeded to the election of officers for the ensuing year. A committee on nominations, consisting of Doctors Peters, Sherman and Cosgrove, was appointed by the Chair. They reported as follows: For President, F. H. Osgood, M.R.C.V.S., of Springfield; for First Vice-President, J. S. Saunders, D.V.S., of Boston; for Second Vice-President, J. M. Skally, V.S., of Boston; for Secretary and Treasurer, L. H. Howard, D.V.S., of Boston; Executive Committee—W. Bryden, V.S., of Boston; M. Bunker, D.V.S., of Newton; T. Blackwood, V.S., of Boston; J. F. Winchester, D.V.S., of Lawrence; G. P. Penniman, D.V.S., of Worcester.

On motion of Dr. Skally the Secretary was instructed to cast the ballot of the Association for Dr. Osgood for President. The rest of the above ticket was also elected by a unanimous vote.

Dr. Osgood assumed the chair, and in a short address thanked the members for the honor conferred upon him.

A letter of farewell was read from our ex-President, Dr. Billings, who has removed to Nebraska, assuring the Association of his continued interest in its affairs.

It was voted that the next meeting of the Association be held at Springfield, and it was announced that Dr. Liautard would be present and would read a paper on "H. Bouley and his life."

Dinner was announced, and the company adjourned to the banquet hall, where the next two hours were passed in consumption of the edibles and listening to after-dinner remarks, Dr. Bryden officiating as toastmaster in a very felicitous manner.

Among the toasts drank were the following: "The Massachusetts Veterinary Association," responded to by Dr. Howard; "Our President," by Dr. Osgood; "The Veterinary Colleges," by Doctors Sherman and Blackwood; "The U. S.

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Veterinary Medical Association," by its Vice-President, Dr. Cosgrove; "Our Retiring Officers," by Dr. J. S. Saunders; "The Profession in Boston," by our guest, Dr. J. H. Stickney; "Agriculture," by Dr. Peters, of the Massachusetts Society for the Promotion of Agriculture, and Dr. Winchester, of the Massachusetts Cattle Commission; "Society," by its luminary, Dr. Bunker; "The Ladies," by their champion, Dr. Skally. Dr. Skally proposed a toast, "The Profession in Foreign Countries (Chelsea in particular)," which was responded to by "the foreigner," Dr. Bryden.

The company adjourned at a late hour. L. H. HOWARD, Secretary.

CORRESPONDENCE.

AGRICULTURAL COLLEGE, HANOVER, N. H.,
Editor Review: May, 1886.

DEAR SIR.—A case of early pregnancy in a full-blooded Jersey heifer recently came under my observation. The owner had not the exact date of the mother's birth, but from data which he did have was positive that she could not be more than 375 days old when the calf was born. He thought she was younger than that. The birth was easy, the offspring a healthy male and well formed. The calf was weighed in my presence about sixteen hours after birth and tipped the scales at fifty-two pounds. The sire was a full-blooded Durham about a year and a half old. Yours truly,

R. F. BURLEIGH, D.V.S.

OBITUARY.

We have to record the decease of the oldest practitioner of veterinary medicine in the city of Boston, namely, Dr. W. H. Lillyman, M.R.C.V.S.

Dr. Lillyman was born in London, England, Feb. 28, 1820, was apprenticed at the age of thirteen to a veterinary surgeon of London. Later he entered the veterinary college in the same city, graduating in 1840, at the age of twenty. He then went to Ireland, practicing his profession in the vicinity of Dublin for a few years, and came from there to America, landing here in 1846.

He soon established himself in practice at Boston, Mass., where he remained until his death, which occurred May 15, at the age of sixty-six years.

He was for thirteen years after his arrival at Boston the only graduated veterinarian in the city, and for nearly forty years has attended to a very extensive practice throughout New England.

He was a man noted for his independence of thought and originality of idea, and his profession was his idol. He enjoyed the reputation of being a skilful surgeon and successful practitioner.